

SHAMSUTDINOV, R.; PAN'KIN, N., inzh.; DUBYAGO, P.; BELETSKIY, M., inzh.;
EYHIS, S.; YELIZAR'YEV, B.

Exchange of experience. Avt. transp. 42 no.10:53-54 0 '64.
(MIRA 17:11)

h1185
S/169/62/000/009/114/120
D228/D307

9.9110
AUTHOR: Yelizar'yev, Yu. N.

TITLE: Results of vertical ionospheric sounding at Tomsk during the IGY and IGC

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 21, abstract 9G163 (Tr: Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, no. 38, 1960, 5-14)

TEXT: Experimental data on vertical ionospheric sounding are cited. They were obtained at Tomsk from observations in the period of the International Geophysical Year and International Geophysical Collaboration (from July 1, 1957, to December 1959). It is shown that the change in the sunlit component of ionization in the F2 region proceeds during the year in accordance with the law of the sine of the sun's zenith angle. The seasonal change in the growth rate of ionization in the F2 region in the first half of the day conforms to the law $\cos(\varphi + \delta)$. The experimental data are presented as tables and graphs. /-Abstracter's note: Complete translation./

Card 1/1

41788
S/194/62/000/008/069/100
D271/D308

9.9130

AUTHOR:

Yelizar'yev, Yu.N.

TITLE:

Results of altitude sounding of the ionosphere in Tomsk, during the period of International Geophysical Year and International Geophysical Cooperation

PERIODICAL:

Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1962, 28, abstract 8Zh200 (Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1960, no. 38, 5-14)

TEXT: Experimental results are reported as obtained in vertical soundings of the ionosphere in Tomsk, in the framework of observational program during the International Geophysical Year and International Geophysical Cooperation (July 1, 1957 - December 1959). It is shown that the annual variation of solar illuminated component of the ionization of F₂ region corresponds to the sine law of zenith angle of the sun. Seasonal variations of the ionization increase rate for F₂ region during the first half of the day follow the $\cos(\varphi + \delta)$ law. Experimental data are presented in tables and Card 1/2

Results of altitude sounding of ...

8/194/62/000/008/069/100
D271/D308

graphs. [Abstracter's note: Complete translation.]

Card 2/2

43027

S/194/62/000/010/058/084
A061/A126

9.9.30

AUTHOR: Yelizar'yev, Yu.N.

TITLE: Results of vertical sounding of the ionosphere at Tomsk during the International Geophysical Year and the International Geophysical Co-operation

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 10, 1962, 30, abstract 10-7-601 (Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1960, no. 38, 5 - 14)

TEXT: Observations were conducted on an automatic ionospheric station from July 1, 1957, to December 1959. The observations lasted 20 sec in the frequency range from 1 to 18 Mc. The following ionospheric characteristics were determined: 1) the critical frequencies of the ionosphere; 2) the heights of the major regions of ionization; 3) the factors of transmission (M3000) F₂, (M3000) F₁ on a distance of 3,000 km; and 4) types of sporadic E layers. It is shown that a change of the solar radiation component of the F₂-region ionization in the course of a year takes place according to the sine law of the Sun's zenith angle, while

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Results of vertical sounding of the ionosphere

S/194/62/000/010/058/084
A061/A126

the seasonal change of the growth rate of ionization in region 2 obeys the law $\cos(\varphi + \delta)$ in the first half of a day. Experimental data are given in the form of tables and diagrams. There are 3 references.

R.P.

[Abstracter's note: Complete translation]

Card 2/2

ACCESSION NR: AT4013056

S/3058/62/000/041/0049/0054

AUTHOR: Yelizari'yev, Yu. N.

TITLE: The yearly behavior of the rate of increase in the ionization of the F2 region during the first half of the day

SOURCE: Tomsk. Universitet. Sibirskiy fizikotekhnicheskiy institut. Trudy*, no. 41, 1962. Rezul'taty* obrabotki materialov po issledovaniyu ionosfery* i magnitnogo polya Zemli za period MGG i MGS, 49-54

TOPIC TAGS: ionosphere, atmospheric ionization, F2 layer, atmospheric ionization diurnal variation, critical frequency diurnal variation, solar energy, sun spot

ABSTRACT: From graphs representing the diurnal behavior of the critical frequencies for the F2 layer it can be seen that the change in the ionization condition of this region varies in character at different hours. The level of ionization (at Tomsk) of the F2 layer reaches its minimum value during the morning hours. In the evening hours, before sunset, when a decrease in ionization should be expected, either an increase is observed or else the ionization remains constant for a certain time. The reason for the formation of this evening maximum is not yet clear--all that exists is a hypothesis which explains

Cord

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ACCESSION NR: AT4013056

the phenomenon by alleging that, the evening maximum is caused by the compression of the upper layers of the atmosphere after the heating of the day. This led the author to study the character of the seasonal variation in the rate of the ionization increase in the F2 region (parameter V_{ion} .) during the first half of the day, from the morning minimum of critical frequencies. Toward this end, an f-graph of the median values of the critical frequencies was plotted for each month (Figure 1 in the Enclosure). The figure shows that the ionization for the F2 region increases from the morning minimum of critical frequencies during the first half of the day according to an almost linear law. Consequently, through that area of the f-graph where the greatest growth of critical frequencies occurs, a straight line was drawn, forming a certain angle α° with the time axis. Then $\text{tg}\alpha^\circ$ was determined for each month, characterizing the rate of increase of the ionization. The result was a picture of the variation in the rate of increase of ionization for the F2 region during the year, according to measurements carried out at the Tomsk Ionospheric Station during the period of the IGY and after. The author shows that the annual variation in V_{ion} and the annual change in the quantity of total solar energy reaching the Earth's atmosphere are inversely proportional. The annual amplitudes of the ionization increase rate are well defined by the mean-annual values of sun spot numbers. During the summer months, the ionization increase rate for the F2 region, at

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ACCESSION NR: AT4013056

the latitude of Tomsk, does not depend on solar activity. Orig. art. has: 5 figures and 6 tables.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskoy institut, Tomskiy gosudarstvennyy universitet im. V. V. Kuybysheva (Siberian Physicotechnical Institute, Tomsk State University)

SUBMITTED: 00

DATE ACQ: 27Feb64

ENCL: 01

SUB CODE: AS

NO REF SOV: 008

OTHER: 000

Card 3/4

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962610013-2

Ata stations for the microwave... it is demonstrated that there is a linear dependence between

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962610013-2

L 13275-66 EWT(1)/FCC/EWA(h) GW

ACC NR: AR5028750

SOURCE CODE: UR/0169/65/000/008/A028/A028

SOURCE: Ref. zh. Geofizika, Abs. 8A179

AUTHOR: Yelizar'yev, Yu. N.

TITLE: Results of a vertical probe of the ionosphere above Tomsk for 1962

CITED SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1964, vyp. 45, 153-169

TOPIC TAGS: ionospheric physics, critical frequency, F layer, *CLIMATOLOGY*

TRANSLATION: A reduction in ionization was observed in 1962 as compared to 1961 (the highest critical frequency of the f_0F2 layer fell by 1.2 Mc in the spring and by 0.5 Mc in the summer). The author gives data on the changes in f_0F2 , in $M 3,000$ and the altitude of the principal regions of the ionosphere.

SUB CODE: 04

Card 1/1

UDC: 550.388.2

"APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962610013-2

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962610013-2"

L 43719-66 EWT(1)/FCC GW
ACC NR: AT6023733

SOURCE CODE: UR/2831/65/000/014/0129/0140

AUTHOR: Likhachev, A. I.; Yelizar'yev, Yu. N.; Yegorova, G. V.; Timchenko, N. I.

ORG: none

TITLE: Dependence of ionospheric parameters on the admission of solar radiation into the earth's atmosphere

SOURCE: AN SSSR. Mezhdunarodnyy geofizicheskiy komitet. V razdel programmy
MGG: Ionosfera. Sbornik statey, no. 14, 1965. Ionosfernyye issledovaniya, 129-140

TOPIC TAGS: F layer, solar radiation effect, atmospheric ionization

ABSTRACT: This article presents data from a study of the relations between ionization parameters of the F2 layer and the zenith angle of the sun and the influx of solar energy into the earth's atmosphere. An investigation of the time variations of the diurnal increment of ionization, which represents the difference between critical frequencies at the maximum (midday hours) and minimum of the diurnal variation, showed that the maximal value of the increment of ionization is reached during the winter and the minimal value during the summer, and that during the year the change in the increment correlates well with the change of the sine of the zenith angle of the sun; the maximal values of the diurnal increment observed during the winter

Cara 2/4

L 43719-66

ACC NR: AT6023733

months change in proportion to solar activity, and during the summer months the increment remains approximately constant regardless of solar activity. On the basis of the widely held concept, confirmed by large-scale ionospheric observations, that the principal agent of ionization at the level of the F2 layer is solar wave radiation, a method of investigation is given to elicit the dependence of the state of ionization on the level of the wave radiation of the sun. It was found that the basic parameters characterizing the state of ionization are associated with the zenith angle and level of solar radiation, that the duration of illumination affects the state of ionization and the establishment of the phenomenon of limitation of an increase of ionization in the F2 layer, and that a radiation-type equilibrium state exists in the ionosphere during years of maximal solar activity and during the summer at moderate activity. It would be desirable to introduce into the annual data-analysis reports a section on the detection of a relation between ionization parameters and the level of wave radiation for each station based on the method presented. Orig. art. has: 9 figures and 12 formulas.

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 020/ OTH REF: 004

Card 2/2 hs

YELIZAR'YEV, Yu.Z.

Ancient granitized conglomerates at the foot of the Kitoyskiya Gol'tsy.
Dokl. AN SSSR 134 no.6:1414-1416 O '60. (MIRA 13:10)

1. Vostochno-Sibirskiy geologicheskoy institut Sibirskogo otdeleniya
Akademii nauk SSSR. Predstavleno akademikom N.S.Shatskim.
(Tal'yan region--Conglomerate)

YELIZAR'YEV, Yu.Z.

Archean stratigraphy of the southwestern Lake Baikal region.

Trudy VSGI Ser.geol. no.5:147-151 '62.

(MIRA 15:9)

1. Vostochno-Sibirskiy geologicheskoy institut Sibirskogo
otdeleniya AN SSSR.

(Baikal Lake region--Geology, Stratigraphic)

YELIZAR'YEV, Yu.Z.

Ancient conglomerates of the Kitoy Alps (Eastern Sayan). Trudy
VSGI Ser.geol. no.5:163-177 '62. (MIRA 15:9)

1. Vostochno-Sibirskiy geologicheskii institut Sibirskogo
otdeleniya AN SSSR.
(Kitoy Gol'tsy--Conglomerate)

YELIZAR'YEV, Yu.Z.,

Characteristics of the Early Pre-Cambrian of the Lake Baikal
region and Eastern Sayan Mountains. Geol. i geofiz. no.3:47-57
'64. (MIRA 18:7)

1. Institut zemnoy kory Sibirskogo otdeleniya AN SSSR, g. Irkutsk.

YELIZAR'YEV, Yu.Z.

Polyfacies regional metamorphism in the Archean of southwestern
Transbaikalia. Izv. AN SSSR. Ser. geol. 29 no.9:21-29 S '64.
(MIRA 17:11)

1. Institut zemnoy kory Sibirskogo otdeleniya AN SSSR, Irkutsk.

YELMAN'YAMA, I. S.

1634. Proizvodstvennyy Travmatizm Sredi Veloschchikhsya Remeslennykh Uchilish
Metalloobrabatatyvayusachey Promyshlennosti. M., 1954. 15a. 20sm. (M-VC
Zdravookhraneniya SSSR. Tsentr. In-T Usovershenstvovaniya Vrachey). 100 EKL.
B. TS.-(54-54534)

SO: Knizhnaya Letopis', Vol. 1, 1955

YELIZAR'YEVA, I. S.

"Industrial Traumatism and Its Prophylaxis Among Industrial School Students in the Metal-Working Industry." Cand Med Sci, Central Inst for the Advanced Training of Physicians, 4 Jan 55. (VM, 24 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: SUM No. 556, 24 Jun 55

YELIZAR'YEVA, I.S., kand.med.nauk

"Physicians of the world in the struggle for peace" by E.D. Ashurkov,
V.S. Grazhul'. Reviewed by I.S. Elizar'eva. Sov.zdrav. 17 no.10
57-58 0 '58 (MIRA 11:11)

(PHYSICIANS)

(ASHURKOV, E.D.)

(GRAZHUL', V.S.)

1. YELIZAR'YEV, M. F.
2. USSR (600)
4. Meadows - Tomsk Province
7. Meadow vegetation of Tomsk Province as a feed supply in raising livestock. Trudy Tomsk.un. 114, 1951.
9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

YELIZARIYEVA M. F.

Card 1

AUTHOR: Krylov, G.V.

26-58-7-35/48

TITLE: Scientific Explorations in Siberia (Nauchnyye issledovaniya v Sibiri)

PERIODICAL: Priroda, 1958, Nr 7, pp 114-115 (USSR)

ABSTRACT: The XIIth Session of the Zapadno-Sibirskiy filial AN SSSR (West-Siberian Branch of the AS USSR) took place in Novosibirsk from 17 to 20 March 1958. Delegates from other important Soviet scientific centers attended the session. A total of 190 papers were delivered, of which over 50 served practical purposes. Professor T.F. Gorbachev, President of the Presidium of the West-Siberian Branch of the AS USSR and Vice-President of the Organization Committee of the Siberian Department of the AN USSR, evaluated the research results of the over 800 scientific workers of the institute, outlined the 1959 to 1965 plan assignments to the institute and commented on the establishment of the new large scientific center in the east of the country, the Sibirskoye otdeleniye AN SSSR (Siberian Department of the AS USSR). In the section for complex explorations of the water reservoir of the Novosibirskaya GES (Novosibirsk Hydroelectric Station), S.G. Beyrom and V.M. Samochkin spoke on the na-

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Scientific Explorations in Siberia

26-58-7-35/48

tural factors of the changes of the reservoir's banks. L.A. Lamin sketched the scientific bases of bank-preserving forest plantations. Professor V.V. Reverdatto discussed relics of the flora of Central Siberia from the Glacial period. A.V. Kuminova commented on the ecological composition of the flora of the Altay. M.F. Yelizar'yeva, Dotsent of the Krasnoyarskiy pedagogicheskiy institut (Krasnoyarsk Pedagogical Institute), spoke on plant life in the east border region of the West Siberian depression. Professor B.A. Tikhomirov discussed the basic problems and objects of study of the plant world and plant resources of the northern-most regions of Siberia.

ASSOCIATION: Biologicheskii institut Zapadno-Sibirskogo filiala AN SSSR - Novosibirsk (Biological Institute of the West Siberian Branch of AS USSR - Novosibirsk)

1. Scientific research--USSR

Card 2/2

YELIZAR'YEVA, M.F.

Some specific features of vegetation in the eastern outskirts
of the West Siberian Lowland (north of Krasnoyarsk as far as the
basin of the Yeloguy River). Uch. zap. Kras. gos. ped. inst.
15:3-15 '59. (MIRA 14:12)

(Yenisey Valley—Phytogeography)

YELIZAR'YEVA, M.F.

Geobotanical research in the western part of the Angara Valley.
Uch. zap. Kras. gos. ped. inst. 15:17-28 '59. (MIRA 14:12)
(Angara Valley---Phytogeography)

YELIZAR'YEVA, M.F.

The layout of geobotanical regions in the Ob-Yenisey interfluvium
(in the southern part of the forest zone). Uch. zap. Kras. gos.
ped. inst. 15:29-42 '59. (MIRA 14:12)

(Ob' Valley--Phytogeography)
(Yenisey Valley--Phytogeography)

YELIZAR'YEVA, M.F.

Vegetation of Aleksandrovskiy District, Tomsk Province. Trudy TGU
147:212-223 '57. (MIRA 16:5)

1. Kafedra botaniki Krasnoyarskogo pedagogicheskogo instituta. . .
(Aleksandróvskiy District (Tomsk Province)--Phytogeography)

YELIZAR'IEVA, M.F.

Vegetation of the gently rolling landscape in the glacial zone of
the eastern part of the West Siberian Plain (basin of the Yeloguy
River, the left affluent of the Yenisey River). Uch. zap. Kras.
gos. ped. inst. 20 no.1:3-26 '61. (MIRA 16:7)
(Yeloguy Valley---Botany)

YELIZAR'YEVA, M.F.

Vegetation of the outwash plain in the extraglacial zone of the eastern outskirts of the West Siberian Plain (basin of the Kas River, the left affluent of the Yenisey River). Uch. zap. Kras. gos. ped. inst. 20 no.1:27-44 '61. (MIRA 16:7)
(Kas Valley--Botany)

YELIZAR'YEVA, M.F.

Studying the vegetation of the Chulym-Ket' interfluv. Uch. zap.
Kras. gos. ped. inst. 20 no.1:45-72 '61. (MIRA 16:7)
(Chulym Valley--Botany) (Ket' Valley--Botany)

YELIZAR'YEVA, M.F.

Notes on the Siberian pine forests in Tomsk Province. Trudy Tom.
obl kraeved. muz. 6 no.1:55-64 '62. (MIRA 17:11)

1. Krasnoyarskiy pedagogicheskiy institut.

YELIZAR'YEVA. M.F.

Brief survey of vegetation of the lower reaches of the Dubchas River.
Uch.zap.Kras.gos.ped.inst. 24 no.6:39-54 '63.

Brief description of the vegetation of the middle and lower Turukhan
River basin. Ibid.:55-73

Phytogeographical zoning of the left-bank Yenisey Valley. Ibid.:74-102
(MIRA 18:10)

L 125843-66 EWT(1)/FCC/EWA(h) GW	
ACC NR: AR5018943	SOURCE CODE: UR/0269/65/000/007/0055/0055
AUTHOR: <u>Yelizar'yev, Yu. N.</u> 58	
ORG: none	
TITLE: Relationship between minimum critical frequencies of the F_2 layer with the ingress of solar energy into the Earth's atmosphere. 12	
SOURCE: Ref. zh. Astronomiya. Otdel'nyy vypusk, Abs. 7.51.454	
REF-SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-tě, vyp.45, 1964, 144-152	
TOPIC TAGS: solar activity , atmospheric phenomenon, solar radiation, F layer	
TRANSLATION: Results are given of studies made on the relationship between the minimum critical frequencies of the F_2 layer with the ingress of solar energy into the Earth's atmosphere. The studies were made on the basis of data obtained by the Tomsk Ionospheric Station (1945-1960), as well as on data from the Moscow, Sverdlovsk, Irkutsk and Alma-Ata stations, obtained during the periods of IOY and the International Geophysical Cooperation. It is shown that there is a linear relation between the variations in the minimum critical frequencies of layer $F_2(f^o F_{2min.})$ and the yearly ingress of solar radiation into the atmosphere. The character and amplitude of	
Card 1/2	UDC: 523.7:525.23

L 25843-66

ACC No. A25018943

the deviation from the median values of $f \cdot F_{\min}$ were estimated on the basis of variations in the yearly processes which determine them. References 6. Author's resume.

SUB CODE: 03,20 SUBM DATE: none

Card 2/2 *W*

YELIZAR'YEVA, M. V.

PA 52/49776

USSR/Medicine - Rodents
Biology - Dipodidae

MAY 49

"Occurrence of the Horn-Eared Jerboa (Dipodidae, Salpingotus Vinogr.) Within the USSR," M. V. Yelizar'yeva, Zool Inst, Acad Sci USSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXVI, No 3

Gives detailed biometric measures of Salpingotus-type young male jerboa, discovered 24 May 48 in the sands of Kyzyl-Kum opposite village of Kamyshinka on the left bank of the Irtysh River near its egress from Zaysannor. Submitted by Acad K. I. Skryabin, 25 Mar 49.

52/49776

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 285 (USSR)

SOV/58-59-8-19056

AUTHOR: Yelizar'yeva, V.N.

TITLE: A Study of the Excitation of Rotational States in Some Diatomic Molecules in a Glow Discharge

PERIODICAL: Uch. zap. Tomskovo un-ta, 1958, Nr 32, pp 3-17

ABSTRACT: The author studied the excitation of rotational states in N_2 , CO and CN molecules in a glow discharge. It was found that the rotational temperature, ascertained from the spectral bands of these molecules, depends upon the gas pressure and the intensity of the discharge current. It is shown that the rotational temperature ascertained from the spectral bands of molecules which are little subject to chemical changes in the discharge, is equal to the temperature of a neutral gas. The rotational temperature ascertained from the band of the CN molecule which appears during the discharge itself as a result of chemical reactions, differs from the temperature of a neutral gas. The author calls

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SOV/58-59-8-19056

A Study of the Excitation of Rotational States in Some Diatomic Molecules in a Glow Discharge

attention to the analogy between the principles of selection in the case of the excitation of rotational molecular states under the action of light and in the case of their excitation by electronic impact.

The author's résumé

Card 2/2

V.B.m.
YELIZAR'YEVA, V. N. Cand Phys-Math Sci -- (diss) "Study of the excitation
of the rotary states of certain diatomic molecules in glow discharges."

Tomsk, 1957. 9 pp (Min of Higher Education USSR. Tomsk State Univ im V. V.
Kuybyshev), 100 copies (KL, 5-58, 100)

Yelizar'yeva, V. N.

51-1-8/18

AUTHOR: Yelizar'yeva, V. N.

TITLE: Determination of Temperature from a Rotational Structure of the Bands of N_2 , CO and CN in a Glow Discharge. (Opredeleniye temperatury po vrashchatel'noy strukture polos N_2 , CO i CN v tleyushchem razryade.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr.1, pp.61-67. (USSR)

ABSTRACT: The gases N_2 , CO and CN were studied. The discharge tube was water cooled and fed with d.c. stabilized current. Certain measurements on mixtures of CO and H_2 were made using d.c. as well as a.c. current. Spectra produced in a positive column of the discharge were measured using a triple-prism glass spectrograph. Rotational temperature was determined from the bands: (0-3) 4059.4 Å of the second positive system of nitrogen, (0-2) 5198 Å of the Angstrom system of carbon dioxide and (0-1) 4216 Å of the violet system of CN. In the experiments on N_2 , CO and their mixtures about 10% of H_2 was used in order to make conditions the same as in

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51-1-8/18

Determination of Temperature from a Rotational Structure of the
Bands of N_2 , CO and CN in a Glow Discharge.

the work of A.D. Karateyev (Ref.1) since some of his results are used by the author in the discussion. Values of rotational temperature were determined from intensity distribution of rotational lines in the bands listed above. The values of rotational temperature found by this method and dependence of this temperature on the discharge current and gas pressure are given in Tables 1, 2 and 3. Table 4 gives values of rotational temperature found using a.c. discharges. The d.c. and a.c. values of rotational temperature are practically identical. The N_2 and CO molecules both in ground and in excited states are distributed in rotational levels according to the Boltzmann law. Values of rotational temperature obtained from N_2 and CO bands were found to be the same and equal to the neutral gas temperature. Two Boltzmann distributions at two different temperatures were obtained for CN. The author thanks Professor N.A. Prilezhayeva for directing the work. There are 4 figures, 4 tables and 8 references, 5 of which are Slavic.

Card 2/3

Determination of Temperature from a Rotational Structure of the Bands of N₂, CO and CN in a Glow Discharge. 51-1-8/18

ASSOCIATION: Spektroskopy Laboratory of Siberian Physico-technical Institute at Tomsk State University imeni V.V. Kuybyshev. (Laboratoriya spektroskopii Sibirskogo fiziko-tekhnicheskogo instituta pri Tomskom gosudarstvennom universitete im. V.V. Kuybysheva.)

SUBMITTED: November 10, 1956.

AVAILABLE:

Card 3/3

89708

9.3150 (1049,1140,1532)

S/139/61/000/001/016/018
E032/E514

26.2311

AUTHORS: Yelizar'yeva, V. N. and Murav'yeva, L.P.

TITLE: A Study of the Temperature of the Gas in the Negative Glow and the Positive Column of a Glow Discharge

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1961, No.1, pp.166-168

TEXT: The basic elementary process, occurring in a glow discharge and leading to the heating of the gas, are elastic collisions between electrons and gas molecules, during which the electrons communicate some of their kinetic energy to the gas molecules. The energy thus communicated per unit time and unit volume is given by

$$\frac{dA}{dt} = \frac{2m_e \kappa N_e W_e^2}{\sqrt{\pi} \lambda_e}$$

(A. Engel' and M. Shtenbek, Ref.1), where m_e is the mass of the electron, κ is the fraction of energy lost by an electron to a molecule, N_e is the electron concentration, W_e is the most probable electron velocity and λ_e is the electron mean free path. It can be

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A Study of the Temperature of

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EO32/E514

shown from this expression that the temperature of the gas in the negative glow should be higher than in the positive column if diffusion is too weak to equalize the temperatures. The present work was designed to verify this point. The discharge was initiated in a water-cooled discharge tube incorporating inspection windows and hollow aluminium electrodes. The tube employed is shown in Fig.1. In this figure 1 and 2 are windows and 3 and 4 the electrodes. The internal diameter of the tube was 0.8 cm and the distance between the electrodes was 13 cm. The tube was d.c. operated and the spectrograms were obtained with a three-prism high-resolution glass spectrograph MC7-67 (ISP-67). An auto-collimating camera with a focal length of 3000 mm was employed (slit width 0.019 mm, exposure less than 4 to 5 hours). The temperature of the gas was determined from the intensity distribution for the rotational lines of the (0-3) $\lambda 4059.4 \text{ \AA}$ band of the second positive nitrogen system (V. N. Yelizar'yeva, Ref.5). The pressure range was 0.2 to 0.7 mm Hg at a d.c. discharge current of 0.04 A. Measurements were also taken at 0.5 mm Hg with a discharge current between 0.03 and 0.06 A. The results obtained are

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A Study of the Temperature of

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summarized in Tables 1 and 2.

Table 1

P in mm Hg	T°K	
	Negative glow	Positive column
0.2	480	-
0.3	510	310
0.5	560	350
0.7	590	380

Table 2

I in A	T°K	
	Negative glow	Positive column
0.03	460	280
0.04	-	350
0.05	600	-
Card 3/5 0.06	640	390

89708

A Study of the Temperature of S/139/61/000/001/016/018
E032/E514

The fact that the temperature of the gas in the negative glow is higher than in the positive column is explained as follows. In this experiment the average thermal velocity of the nitrogen molecules was approximately 5×10^4 cm/sec. Assuming that the distance between the negative glow and the positive column was 1 cm, it is estimated that the equalization of the temperature brought about by diffusion can take place in 10^{-4} to 10^{-5} sec. On the other hand, the time between electron-molecule collisions giving rise to the heating of the gas is about 10^{-7} sec. It follows that the temperature equalization does not take place. Since the heating of the gas in the negative glow is more intensive than in the positive column, the above temperature difference will normally occur. There are 1 figure, 2 tables and 5 references: all Soviet.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskii institut pri Tomskom gosuniversitete imeni V. V. Kuybysheva
(Siberian Physico-Technical Institute of the Tomsk State University imeni V. V. Kuybyshev)

SUBMITTED: June 25, 1960

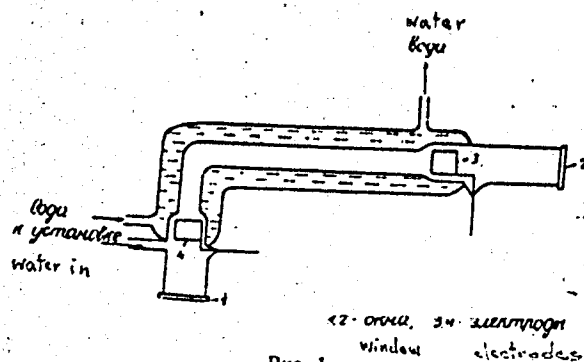
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A Study of the Temperature of S/139/61/000/001/016/018
E032/E514

Fig.1
Legend

Water

water in



Phc. 1.

Card 5/5

USSR/Cultivated Plants - Fodders.

M-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29832

Author : Salyukov, P.A., Yelizar'yeva, V.V., Lipovetskaya, N.N.

Inst : The Scientific Research Institute for Fodder and Pastura-
ge.

Title : The Comparative Productivity of Annual Fodder Crops
Raised on Bottomland and Estuary Meadows.

Orig Pub : Tr. N. -i. in-ta kormov i. pastbishch, 1957, 1, 101-109

Abstract : According to tests made by the Institute in 1952-1955 the best annual fodder crops on bottomland and estuary meadows are corn, sunflower, sudan grass and Hungarian grass. When planted on an overturned layer, these crops showed higher yields than when planted directly on the bed. The corn yields on bottomland and estuary meadows (300-482 centners per ha. of green stuff) were 4-7 times

Card 1/2

- 30 -

Ref Zhur - Biol., No 7, 1958, 29832

M-4

higher than on the steppe. The root system reaches the groundwater level. On meadows with solonchak and weakly alkaline soils corn yields to the sunflower in productivity.

higher than on the water level. On meadows with solonchak and weakly alkaline soils corn yields to the sunflower in productivity.

Card 2/2

YELIZAVETIN, M. A.

1. SATEL', Ye. A. : SHILIN, A. I. : YELIZAVETIN, M. A. : VOSTOKOV, A. I.
IVANOV, L. F.

2. USSR (600)

4. Grinding and Polishing

7. Machine for hydraulic polishing of cylinders. Stan. i instr. 23 no. 9, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

U S S R •

Influence of hydroblasting on service properties of steel.
B. A. Shtel and M. A. Litavskiy. *Vechnik Mashinostroeniya*
33, No. 2, 61-6 (1955).—In hydroblasting, a mixt. of water
64.4, abrasives 33.6, Na_2CO_3 1.5, and NaNO_3 0.5% is
blown at an angle of 40–60° to the surface from a nozzle 50–
100 mm. distant from it. The treatment produces a uniform
dull surface 25–30% more wear resistant than a surface of the
same roughness but mechanically ground, more corrosion re-
sistant in vapors of HCl and H_2O and in sea water, and hav-
ing a 15% greater fatigue strength. I. D. Gai.

1) 201

YELIZAVETIN, M.A.

SATEL', E.A., doktor tekhnicheskikh nauk, professor; YELIZAVETIN, M.A.,
kandidat tekhnicheskikh nauk.

Technological characteristics of the hydraulic polishing process
and the range of its application. Trudy MVTU no.66:35-49 '55.

(MIRA 9:8)

(Grinding and polishing)

BOOK

Call Nr AF 1119832

AUTHOR: Yelizavetin, Mikhail A.

TITLE: Surface Hardening of Machine Parts (Uprochneniye poverkhnosti detaley mashin)

PUB. DATA: Vsesoyuznoye uchebno-pedagogicheskoye izdatel'stvo trudrezervizdat, Moscow, 1956, 82 pp., 10,000 copies

ORIG. AGENCY: None given

EDITORS: Editor: Kontsevaya, E.M.,; Technical Editor: Kuz'min, D.G.; Science Editor: Bolkhovitinova, Ye.N., Candidate of Technical Sciences

PURPOSE: This pamphlet is intended for coaches of industrial training courses, for teachers and graduates of vocational and technical schools and for skilled workers in machine shops.

Card 1/4

Surface Hardening of Machine Parts (Cont.)

Call Nr AF1119832

COVERAGE:

This pamphlet contains discussions on the modern technological processes of surface hardening of machine parts, which have found wide application in machine shops as an effective means of increasing the performance characteristics of products. This booklet offers Russian contributions. No personalities are mentioned. There are 22 bibliographic references, all of which are Slavic.

Card 2/4

Call Nr AF 1119832

Surface Hardening of Machine Parts (Cont.)

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AVAILABLE: Library of Congress

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KRASNICHENKO, Leonid Vasil'yevich, kand.tekhn.nauk; ~~YELIZAVETIN, M.A.,~~
~~Y.A.,~~ kand.tekhn.nauk, nauchnyy red.; RYCHEK, T.I.; red.;
SUSHKEVICH, V.I., tekhn.red.

[Modern metal spraying] Sovremennaya tekhnologiya metallizatsii
raspyleniem. Moskva, Vses.uchebno-pedagog.izd-vo Trudrezervizdat,
1958. 93 p. (MIRA 12:2)

(Metal spraying)

SLOBODYANNIKOV, Sergey Stepanovich; YELIZAVETIN, M.A., kand.tekhn.nauk,
nauchnyy red.; GAVRILOV, F.P., red.; RAKOV, S.I., tekhn.red.

[Ultrasonic processing of industrial products] Ul'trazvukovaya
obrabotka promyshlennykh izdelii. Moskva, Vses.uchebno-pedagog.
izd-vo Trudrezervizdat, 1958. 100 p. (MIRA 12:4)
(Ultrasonic waves--Industrial applications)

AUTHORS:

Voronin, M.I., and Yelizavetin, M.A.,
of Technical Sciences

SOV-3-58-8-15/26
Docents, Candidates

TITLE:

Up-to-date Graduate Work Planning for Machine Construction
Specialties (O sovremennom diplomnom projekte po mashino-
stroitel'nyy spetsial'nostyam)

PERIODICAL:

Vestnik vysshey shkoly, 1958, Nr 8, pp 61 - 66 (USSR)

ABSTRACT:

By order of the Glavnoye upravleniye politekhnicheskikh i
mashinostroitel'nykh vuzov Ministerstva vysshego obrazo-
vaniya SSSR (Main Administration of Polytechnic and Machine
Constructing Vuzes of the USSR Ministry of Higher Education),
the authors familiarized themselves with the situation ex-
isting in preparing graduate work for machine construction
at a number of vuzes. They found that much attention is
being paid to the development of up-to-date processes and
working out of machine designs. The quality of the grad-
uate work is also rising. However, when examining ques-
tions dealing with the improvement of graduate work, opin-
ions differed mainly to the size and contents of the grad-
uate work and the methods of its preparation. Present grad-
uate work often consists of constructional, technological,
organizational and economical parts which do not intercon-

Card 1/2

APPROVED FOR RELEASE: 03/15/2001

CIA-RDP86-00513R001962610013-2

SOV-3-58-8-15/26
Machine Construction Specialties

ASSOCIATION:

Up-to-date Graduate Work Planning for Machine Construction
nect. This may be due to poor supervision on the part of
councils and chairs of the institute and to the fact that
the subjects for graduate work and the tasks involved were
not considered carefully. In this connection the authors
mention the Gor'kovskiy politekhnicheskii institut (Gor'-
kiy Polytechnic Institute), and the Moskovskiy aviatsion-
nyy tekhnologicheskii institut (Moscow Aeronautical-Tech-
nological Institute). They come to the conclusion that
the preparation of the graduate work for machine construc-
tion specialties does not yet meet increased qualification
requirements of future specialists. The authors give some
advice for the improvement of the quality of graduate work.
E. Bauman (Moscow Higher Technical School imeni N.E.
Bauman)

Card 2/2

22(1)

SOV/3-59-4-3/42

AUTHORS: Satel', E.A., Doctor of Technical Sciences, Professor, Voronin, M.I., and Yelizavetin, M.A., Candidates of Technical Sciences, Docents

TITLE: Planning of **Vuz Degrees** Under Present Conditions

PERIODICAL: Vestnik vysshey shkoly, 1959, Nr 4, pp 14-19 (USSR)

ABSTRACT: The training of specialists at higher schools is being reorganized at present. The planning of the diploma design presents an important stage in this training. The state of design planning in several machine building vuzes indicates that in the majority of graduation works, sufficient attention is paid to developing modern machine designs and methods of their production, and that a considerable number of projects are based on realistic themes. This means that on the whole the planning of diploma designs in machine building specialties is satisfactory. However, because of insufficient connection between the higher school and production places, and as the students' training does not fully reflect problems relating to the theory and prospects of development of science

Card 1/3

SOV/3-59-4-3/42

Planning of Vuz Degrees Under Present Conditions

and engineering, the planning of designs is in several vuzes not in accordance with the requirements. Practice shows that the diploma designs worked out by students of correspondence vuzes more often meet the demands of industry than those prepared by day-time institutes. The authors mention in this connection several complicated technical problems which were sufficiently elaborated in graduation designs handed in to the Vsesoyuznyy zaochnyy politekhnicheskiy institut (VZPI) (All-Union Polytechnical Correspondence Institute). They point out substantial shortcomings existing in both the regular and correspondence vuzes in regard to the graduation designs and indicate the ways how to overcome them. In order to raise the practical value of students' works, it is expedient that a group of students be entrusted with a complicated theme. As an example the authors take an automatic line for machining of electric motor shafts, developed by the Eksperimental'nyy nauchno-issledovatel'skiy institut metalloobrabotki stankov (ENIMS) (Experimental Scientific-Research Institute of Metal-

Card 2/3

SOV/3-59-4-3/42

Planning of **Vuz Degrees** Under Present Conditions

cutting Machine Tools). In the authors' opinion the graduation design of a future mechanical engineer of various machine building branches should consist of the following basic interconnected parts: designing, technological, and organizational - economical. Safety should also be reflected in the projected machine or technological process, and not in a separate section of the work. In conclusion the authors set forth a number of recommendations which are based on their own practice and the experience of other vuzes.

ASSOCIATION: Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N.E. Baumana (Moscow Higher Technical School imeni N.E. Bauman)

Card 3/3

YELIZAVETIN, Mikhail Alekseyevich; MALOV, A.N., nauchnyy red.; LITVAK, D.S.,
red.; PEREDERIY, S.P., tekhn. red.

[Mechanization and automation in the manufacture of machinery] Mekha-
nizatsiia i avtomatizatsiia v mashinostroenii. Moskva, Vses. uchebno-
pedagog. izd-vo Proftekhizdat, 1961. 211 p. (MIRA 14:7)
(Automation) (Machinery industry--Technological innovations)

ANAN'YEV, Sergey Levonovich; YELIZAVETIN, Mikhail Alekseyevich; MALOV, A.N.,
nauchn. red.; LITVAK, ~~B.S.~~, red.; ~~BONODNOVA~~, L.A., tekhn. red.

[Manufacture of hydraulic drives] Proizvodstvo gidravlicheskikh pri-
vodov. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961.
125 p. (MIRA 14:8)

(Oil--Hydraulic machinery)

PHASE I BOOK EXPLOITATION

SOV/5792

Yelizavetin, Mikhail Alekseyevich

Mekhanizatsiya i avtomatizatsiya v mashinostroyenii (Mechanization and Automation in the Machine Industry) Moscow, Proftekhizdat, 1961. 211 p. 10,000 copies printed.

Scientific Ed. : A. N. Malov; Ed. : D. S. Litvak; Tech. Ed. : S. P. Perederiy.

PURPOSE: This book is intended for teachers and demonstrators in trade and technical schools, as well as for skilled workers in machine plants.

COVERAGE: Basic problems pertaining to mechanization and automation in the machine industry are analyzed, and the technical means used in this field are described. Control systems, mechanized and automatic feeding and conveying devices, and machine-tool fixtures are discussed. Trends and techniques in the mechanization and automation of manufacturing processes in the machine

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4 Mechanization and Automation (Cont.)

SOV/5792

industry are presented. No personalities are mentioned. There are 26 references, all Soviet.

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ANAN'YEV, S.L., prof.; YELIZAVETIN, M.A., inzh.

Development of technological processes for experimental production.
Vest.mash. 41 no.7:81-85 J1 '61. (MIRA 14:6)
(Engineering research)

SATEL', E.A.; YELIZAVETIN, M.A.

Technological methods for improving the quality of the surface
layer of machine parts. Trudy Sem.po kach.poverkh. no.5:21-26
'61. (MIRA 15:10)

(Surface hardening)

OSTROUMOV, Vladimir Pavlovich; ~~YELIZAVETIN, Mikhail Alekseyevich;~~
BRASLAVSKIY, V.M., inzh., retsenzent; KALETIN, Yu.M., inzh.
retsenzent; DUGINA, N.A., tekhn. red.

[Increasing the strength of gear wheels]Povyshenie prochnosti
zubchatykh koles. Moskva, Mashgiz, 1962. 89 p. (MIRA 15:8)
(Gearing) (Metals--Hardening)

YELIZAVETIN, M.A.; SATEL', E.A.; SLOBODYANNIKOV, S.S., kand.
tekhn. nauk, retsenzent; GARKUNOV, D.N., doktor tekhn.
nauk, red.

[Technological methods for increasign the durability of
machinery; increasing the operational properties and
reliability of machine parts] Tekhnologicheskie sposoby
povysheniia dolgovechnosti mashin; povyshenie eksploatatsion-
nykh svoistv i nadezhnosti raboty detalei mashin. Moskva,
Izd-vo "Mashinostroenie," 1964. 438 p. (MIRA 17:8)

KHRUSHCHOV, M.M., doktor tekhn. nauk, prof., otv. red.; YELIZAVETIN,
M.A., kand. tekhn. nauk, red.

[Determining the wear of machine parts in short operating
periods] Opredelenie iznosa detalei mashin za korotkie pe-
riody raboty. Moskva, Mashinostroenie, 1965. 73 p.
(MIRA 18:4)

BABICHEV, A.P.; KOTEL'NIKOV, V.K., dots., inzh., retsenzents;
YELIZAVETIN, M.A., kand. tekhn. nauk, dots., red.

[Honing] Khoningovanie. Moskva, Mashinostroenie, 1965.
94 p. (MIRA 18:2)

ACC NO. AM5000930

Monograph

UR/

YBlizavetin, M. A.; Satel', E. A.

Technological methods for increasing the durability of machinery; increasing the operational properties and reliability of mechanical parts (Tekhnologicheskiye sposoby povysheniya dolgovechnosti mashin; povysheniye ekspluatatsionnykh svoystv i nadezhnosti raboty detalei Mashin) Moscow, Izd-vo "Mashinostroyeniye", 1964, 438 p. illus., biblio. 5500 copies printed.

TOPIC TAGS: machinery, machine engineering, machine durability, machine part life, part resistance, metal wear, metal strengthening, machine fabrication

PURPOSE and COVERAGE: This book is intended for mechanical engineers at plants and scientific workers at research institutes who are engaged in designing and manufacturing of machines. It may also be useful to designers for technological work carried out to fabricate new or modernize old machines and to students of high level education attending the course "Machine-building Technology." This book describes modern technological methods applied to increase the durability and reliability of machines. Information on the wear of metals and the effect of technological factors on the durability of machine parts is presented. Methods of determining the durability and reliability of machine parts and subassemblies are described along with the physical principles of their strengthening and the machining methods used for this purpose. Organizational and economic problems connected with designing and fabricating durable and

UDC 621.05.002.2.004.6:620.169

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1/6

ACC NR: AM5000930

reliable machines are discussed. Factors affecting the durability and wear of machine parts are reviewed from the stand point of technological possibility of increasing their durability and reliability. It is the specific feature characterizing the present book.

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AM5000930

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MOROZOV, A.I.; TSITOVSKIY, B.I., inzh., redsentsent; YELIZAVETIN,
M.A., kand. tekhn. nauk, red.

[Using pneumatic devices for the automation of technological
processes in the machinery industry] Primenenie pnevmaticheskikh
ustroystv dlia avtomatizatsii v mashinostroenii. Moskva, Mashinostroenie, 1965. 138 p. (MIRA 18:2)

KORSAKOV, V.S., doktor tekhn. nauk, prof.; LEBEDEV, A.S., inzh.,
retsenzent; YELIZAVETIN, M.I., kand. tekhn. nauk, red.

[Fundamentals of the design of attachments in the machinery
industry] Osnovy konstruirovaniia prispособlenii v masi-
nostroenii. Izd. 2., dop. i perer. Moskva, Mashinostroenie,
1965. 359 p.
(MIRA 18:1)

ZAMARIN, Yevgeniy Alekseyevich, akademik; YELIZAVETSKAYA, G.V., red.;
GUREVICH, M.M., tekhn.red.

[Designing hydraulic structures] Proektirovanie gidrotekhnicheskikh sooruzhenii. Izd.5. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1961. 227 p.
(MIRA 14:6)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I. Lenina (for Zamarin).
(Hydraulic structures)

FLEKSER, Yakov Nikolayevich; YELIZAVETSKAYA, G.V., red.; SOKOLOVA, N.N.,
tekhn. red.

[Practical course on hydraulics, water supply and water power
stations]Praktikum po gidravlike, vodosnabzheniiu i gidrosi-
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(Hydraulic engineering)

TSAREVSKIY, Aleksey Mikhaylovich; YELIZAVETSKAYA, G.V., red.; DEYEVA,
V.M., tekhn. red.

[Hydraulic mechanization of land improvement work] Gidro-
mekhanizatsiya meliorativnykh rabot. Izd.2., dop. i ispr.
Moskva, Sel'khozizdat, 438 p. (MIRA 16:7)
(Hydraulic engineering)

OFFENGENDEN, S.R.; PANADIADI, A.D.; YARUSHIN, M.I.; YELIZAVET: YA,
G.V., red.; BALLOD, A.I., tekhn. red.

[Operation of irrigation and drainage systems] Eksploatatsia
gidromelliorativnykh sistem. 2. izd. Moskva, Sel'khozizdat,
1962. 494 p. (MIRA 15:9)
(Irrigation) (Drainage)

DURIKOV, Aleksey Pavlovich; CHUMAKOV, Viktor Ivanovich;
YELIZAVETSKAYA, G.V., red.; KOPYAKOVA, G.N., tekhn. red.

[Protection of the population of a rural area from radio-
active contamination] Zashchita naselenia sel'skoi mest-
nosti ot radioaktivnogo zarazhenia. Moskva, Sel'khozizdat,
1963. 77 p. (MIRA 16:12)

(Radiation--Safety measures)

RYCHAGOV, Viktor Vasil'yevich, dots., kand. tekhn. nauk;
TRET'YAKOV, Aleksey Aleksandrovich, dots., kand. tekhn.
nauk; FLORINSKIY, Mikhail Mikhaylovich, prof., doktor
tekhn. nauk; YELIZAVETSKAYA, G.V., red.; SOKOLOVA, N.N.,
tekhn. red.

[Manual on the designing of pumping stations and the test-
ing of pumping equipment] Posobie po proektirovaniu na-
sosnykh stantsii i ispytaniu nasosnykh ustanovok. Mo-
skva, Sel'khozizdat, 1963. 350 p. (MIRA 17:1)

1. Kafedra "Nasosy i nasosnye stantsii" Moskovskogo gidro-
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Florinskiy).

FLEKSER, Yakov Nikolayevich; YELIZAVETSKAYA, G.V., red.; PEVZNER,
V.I., tekhn. red.; KOPNINA, N.N., tekhn. red.

[Rural hydroelectric power stations] Sel'skie gidroelek-
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(MIRA 17:2)

POPOV, Konstantin Viktorovich, prof. Prinimali uchastiye:
MATISSEN, A.E., dots.; MELIK-MUBAROV, S.G., doktor
tekhn. nauk; YELIZAVETSKAYA, G.V., red.; SOKOLOVA,
N.N., tekhn. red.

[Hydraulic structures] Gidrotekhnicheskie sooruzhenia.
Izd.3., perer. i dop. Moskva, Sel'khozizdat, 1963. 438 p.
(MIRA 17:2)

FENIN, Nikolay Konstantinovich; YASINETSKIY, Vyacheslav Grigor'yevich; Prinimal uchastiye MER, I.I.; BERKOV, A.M., kand. tekhn.nauk, retsenzent; DROBYSHEV, G.I., kand. tekhn. nauk, retsenzent; MINKIN, V.I., kand. tekhn. nauk, retsenzent; SHIMANOVICH, V.S., inzh., retsenzent; YELIZAVETSKAYA, G.V., red.; MAKHOVA, N.N., tekhn. red.

[Organization and technology of irrigation and drainage construction work] Organizatsiia i tekhnologiya gidromeliorativnykh rabot. Moskva, Sel'khozizdat, 1963. 478 p.

(MIRA 17:1)

1. Kafedra stroitel'nogo proizvodstva i mekhanizatsii Novocherkasskogo inzhenerno-meliorativnogo instituta (for Berkov, Drobyshev, Minkin). 2. Gosudarstvennyy Komitet Soveta Ministrov RSFSR po vodomu khozyaystvu (for Shimanovich).

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AUTHOR: Yelizav, V.F.

TITLE: Methods for generating a discrete spectrum of stable frequencies with the aid of a pulse-self-oscillator with controlled initial phase

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TEXT: This article is a general survey of the main peculiarities, advantages and defects of several methods permitting the generation of a discrete spectrum of stable frequencies in the ultrashort-wave range (30 - 100 Mc/s) with the aid of a pulse-self-oscillator. Three methods are examined, all of them being essentially based on the possibility of controlling the initial phase of the pulse-oscillator self-oscillation setup process with the aid of the oscillations of an exterior reference oscillator. 1) Method using a quartz reference oscillator operating at a frequency near to the natural frequency of the pulse-self-oscillator. The main parts of this system are the pulse-self-oscillator, the quartz reference oscillator and a generator of keying pulses. 2) Method using the higher harmonic components of the oscillations of the reference oscillator, these

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harmonic components being used here for controlling the initial phase of the self-oscillation process of the pulse-oscillator. The main parts of this system are the pulse-self-oscillator, the quartz oscillator, a harmonic generator, a keyer and a frequency divider. 3) Method using a pulse-self-oscillator with a stable keying frequency, the initial phase of the self-oscillation process being controlled by the oscillations of an auxiliary oscillator generating a continuous frequency spectrum. The main parts of this system are the pulse-self-oscillator, the auxiliary oscillator, a keyer, a mixer and a retunable filter. The Soviet personalities mentioned in the article are: V.I. Grigulevich. There are 3 figures and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

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a filter, this component is applied to a mixer which also receives the input

